

VOLK, V.Ya.

Inversion formulas for a differential equation with a singularity at
 $x = 0$. Usp.mat.nauk 8 no.4:141-151 Jl-Ag '53. (MLRA 6:8)
(Differential equations)

VOLK, V.Ya.

Spectral resolution for a certain class of non-self-adjoint operators. Dokl. AN SSSR 152 no.2:259-261 S '63.

(MIRA 16:11)

1. Predstavлено академиком I.G. Petrovskim.

VOLK, V. Ya.

Volk, V. Ya. On inversion formulas for a differential equation with a singularity at $x=0$. Uspehi Matem.

Nauk (N.S.) 8, no. 4(56), 141-151 (1953).

Let $y'' + [\lambda - q(x) - (p^2 - \frac{1}{4})/x^2]y = 0$ on $0 \leq x < \infty$, where q is continuous and p constant. Any bounded solution $\phi(x, \lambda)$ may be represented by

$$\phi(x, \lambda) = x! \lambda^{\frac{1}{2}} J_p(x\lambda^{\frac{1}{2}}) + \int_0^x K(x, t) t^{\frac{1}{2}} \lambda^{\frac{1}{2}} J_p(t\lambda^{\frac{1}{2}}) dt,$$

where $K(x, t)$ is continuous and J_p is the Bessel function. For the case $p = \frac{1}{2}$ the analogous result was given by Povzner [Mat. Sbornik N.S. 23(65), 3-52 (1948); these Rev. 10, 299]. N. Levinson (Cambridge, Mass.).

Mathematical Review.
June 1954
Analysis

10-7-54
LL

VOLK, V.Yu.; PETROVA, G.P.

Using an interferometer with resolving power in determining relative
forces of manganese triplet oscillators. Sbor.st.LITMO no.47:
81-90 '59. (MIRA 16:10)

RUBTSOV, N.I.; VOLK, Ye.A.

Natural reproduction of spruce (*Picea abies* (L.) Karst.) by layers.
Bot. zhur. 50 no.6:870-873 Je '65. (MIRA 18:7)

1. Leningradskaya lesotekhnicheskaya akademiya imeni Kirova.

VOLK-LAVYANOVICH, M.V.

Temperature measurement of an a-c arc by the self-inversed line
method. Inzh.-fiz. zhur. no.10:98-101 O '64.

1. Institut teplo- i massoobmena AN BSSR, Minsk.

(MFA 11:1)

VOLK-LEVANOVICH, M.V.

Measuring the temperature of a mercury arc by Bartels's method.
Inzh.-fiz.zhur. 5 no.8:87-89 Ag '62. (MIRA 15:11)

1. Energeticheskiy institut AN BSSR, Minsk.
(Electric arc) (Temperature--Measurement)

VLACIL, Frantisek; VOLKA, Karel

Evaluation of the accuracy and correctness of rapid methods of cement analysis. Silikaty 7 no.4:294-301 '63.

1. Katedra analyticke chemie, oddeleni chemicke analysy, Vysoka skola chemicko-technologicka, Praha.

SUCHA, L.; VOLKA, K.

Use of citrate complexes with the ions of $\text{Fe}^3 / \text{Fe}^2$ systems
in the volumetric analytic determination of citric acid.
Coll Cz Chem 29 no. 6:1361-1373 Je '64.

1. Institute of Analytical Chemistry, Higher School of
Chemical Technology, Prague.

VORONIN, V.G.; VOLKACHEV, O.N.; PREOBRAZHENSKIY, N.A.

Synthesis of the racemic tubocurarine. Dekl. AN SSSR 122 no.1:77-79
S '58. (MIRA 11:10)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.
Lomonosova. Predstavlene akademikom A.N. Nesmeyanovym.
(Tubocurarine)

VOLKADATOV, A.F.

15.2620

21960
5/71/68/CIO/COI/COA/COG
1207/D503

AUTHORS: Bezborodov, N.A., Kovtunenko, G.L., Volchek, L.L.,
Orlova, V.I., and Volkadatov, A.F.

TITLE: The effect of strontium and manganese on certain properties of glass

SOURCE: Akademiya nauk BSSR, Minsk, Institut obshchey i neorganicheskoy khimii, Sbornik nauchnykh rabot, no. 1, Minsk, 1960, 51 - 58

TEXT: The authors studied the effect of Sr and Mg on glasses not containing alkalis or borates, suitable for glass-fiber as well as the effect of large quantities of Fe. The fusing and crystallization properties, chemical stability and processing characteristics of the system $\text{CaO} - \text{SrO} - \text{MnO}_2 - \text{Fe}_2\text{O}_3 - \text{SiO}_2$ were investigated and 102 types of glasses synthesized; the composition of these glasses varied within the following limits: SrO 0 - 45 %, CaO 45 - 0 %, MnO_2 14.5 - 0 %, Fe_2O_3 0 - 24.5 % and SiO_2 40.5 %. During experi-

Card 1/3

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5237/2503

The effect of strontium and ...

ments on the founding properties of glass the authors used sand of the following composition: SiO_2 : 98.17 %; Al_2O_3 : 0.35 %; CaO : 0.43 %; MgO : 0.65 %; Fe_2O_3 : 0.07 %; SO_3 : 0.06 %; alkali : 1.01 %. The remaining components of the mixture were added as "chemically pure" substances. The glasses were processed at 1400°C. Compositions containing > 25 % SrO and < 20 % CaO showed founding characteristics; these were affected adversely on increasing the CaO content (and correspondingly decreasing the SrO content) in the glass. Crystallization properties improved on decreasing the SrO content and simultaneously increasing the CaO . This same improvement was observed, but to a lesser degree, when increasing the Fe_2O_3 content at the expense of MnO_2 . Chemical stability of the glasses was tested by determining the loss in weight of the initial powder sample on treatment with water, 0.1 or 2N Na_2CO_3 , 0.02 or 2N NaOH , 0.02 or 2N H_2SO_4 . All samples showed great stability to the aforementioned solutions except to H_2SO_4 where the stability increased on lowering the SrO content (and correc-

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Card 2/3

3773/61/607/0015-4
2277, 228

The effect of strontium and ...

gradually decreasing the CaO content) in the glass. Tests on the drawing of glass fibers were carried out at 1420° C and it was found that compositions with a maximum content of Er₂O and SrO and a minimum content of CaO and Fe₂O, showed the best drawing characteristics. The tensile strength of fibers decreased with increased Fe₂O, and decreased In₂O content. There are 5 figures, 1 table and 5 references: 4 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: Chilas, Simbleby, Minks and Turner, Journ. Soc. Glass Techn. no. 58, p. 172, (1951); Bumpai Icshiki: The Glass Industry, v. 35, no. 6 (1952).

Card 3/3

SHAPIRSNTEYN, Ya.A., inzh.; VCLKANOVA, L.G., inzh.

Distribution of currents between the bus bars of electrolytic
cells. From energ. 20 no.11:23-25 N '65.

(MIRA 18:11)

VOLKANOVSKA, A.

V U G 9

Allergy caused by opium and its alkaloids. V. Ristic and A. Volkanovska (Inst. Pharmacol., Belgrade). *Boll. chim. farm.* 94, 3-5 (1955).—Opium allergy develops only on the basis of prolonged contact with the drug or the alkaloids. Most symptoms are cutaneous; less frequent is asthma. The intradermal reaction is most intense with codeine, less with opium or morphine. Papaverine gave a positive test in 27% of the workers exposed continuously. False-cutaneous reactions are obtained in tests by persons who have not been exposed; the test is not specific.

A. E. Meyer

RISTIC,V.; VOLKANOSKA, A.

The control of injurious effects of benzene in industry Glas.hig
inst.Beogr. 4 no.1-2:95-100 Jan-June '55.
(BENZENE,pois.)

chronic, in opium indust.,substitution by less toxic
chemicals(Ser))

(POISONING,

benzene, in opium indust.,substitution by less toxic
chemicals(Ser))

BOGDANOVIC, M.; GIGOV, A.; VOLKANOVSKI, I.; BOGDANOVIC, J.

Peat bogs and peats of the environs of Lake Ohrid. Zemljiste
biljka 12 no.1/3:89-94 Ja-D '63.

1. Agricultural Faculty of the University of Belgrade, Belgrade.

VOLKAVA, V.

310. A note on the polarographic determination
of N-allylnormorphine (nalyphine). J. Volk and
V. VOLKAVA (eskol, Farmač., 1953, 4 (1), 20-21).

The method of Seagers *et al.* (*Brit. J. Pharm.*, 1953, 4 (1), 172) was shown to be invalid as the polarography of morphine is only feasible in alkaline chloride soln. Moreover the height of the wave remains unchanged in concn. $> 7 \times 10^{-4} M$ of the alkaloid and is strongly dependent on the pH of the soln. A polarographic method can be applied, however, to the nitroso derivative, when the height of the wave was found to be in linear relationship to the alkaloid concn. for solutions $< 0.002 M$.

A. O. JAKUBOVIC

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18/6/61

VOLKCHANETS KAYA G.I.

LEVI, M.I.; KISLYAKOVA, L.N.; GUSEV, V.M.; VOLKCHANETS KAYA, G.I.

Investigation of rodents and their ectoparasites in foci of lymphocytic choriomeningitis. Zhur.mikrobiol.epid.i immun. no.7:44 J1 '54.
(MLRA 7:9)

1. Iz Khar'kovskogo instituta vaktsin i syvorotok imeni Mechnikova
(dir. kandidat biologicheskikh nauk G.P.Cherkas)

(MENINGITIS,

*choriomeningitis, lymphocytic, transm. by rodents & its
ectoparasites)

(RODENTS,

*transm. of lymphocytic choriomeningitis)

(PARASITES,

*transm. of lymphocytic choriomeningitis)

CZECHOSLOVAKIA

OELSCHLAGER, H; VOLKE, J; HOFFMAN, H

1. Pharmaceutical Institute, J.W.Goethe University
(Pharmazeutisches Institut, J.W.Goethe-Universität)
Frankfurt on Main, German Federal Republic (for
Oelschläger and Hoffman); 2. Permanent address for
Volke; J. Heyrovsky Institute for Polarography,
Prague

Prague, Collection of Czechoslovak Chemical Communications, No 3, March 1966, pp 126-1272

"pharmaceutical analysis using polarography or oscil-
lopolarography. Part 4; Mechanism of polarographic
reduction of Diazepam."

VOLKE, Jiri; VOLKHOVA, Vera

Polarographic behavior of alkaloids. Cesk. farm. 3 no.8:289-292
Oct 54.

1. Z Polarografickeho ustavu Cs. akademie ved, Praha
(ALKALOIDS, determination
polarography)
(POLAROGRAPHY
alkaloids)

VOLKE, J

VOLKA, J.; BREZINA, M.; VOLKOVA, V.

Polarography of steroids. II. Reactions of halo steroids with hydroxyl and primary amines. p. 594. (Collection of Czechoslovak Chemical Communication. Praha.

Vol. 19, no. 5, Oct. 1954.)

SO: Monthly List of European Acquisitions (East), EC, Vol. 4, No. 4,
June 1955, Uncl.

VOLKE, Jiri

(4)

Polarography of steroids. II. Reaction of ketosteroids with hydrazines and primary amines. Miroslav Brezina, Věra Volková and Jiří Volke. Polarograf. Ústav ČAV, Prague, Czech. Chem. Listy 48, 194-202 (1954); cf. C.A. 48,

60741. Products of the reaction of dehydroandrosterone, methyltestosterone, and progesterone with dimethylglycine hydrazide (Girard D reagent) (I) in buffered aq. solns. show the presence of 2 forms of reducible compds., the ratio of which depends on pH. The reduction requires 4 electrons and 4 protons. A sample contg. approx. 1 mg. 17 ketosteroids dissolved in aq. or other low-boiling solvent is evapd. to dryness, treated with 10% I in AcOH (0.1 ml. per 1 mg. steroid), heated 3 min. at 100°, cooled, mixed with 0.5 ml. EtOH and 0.25 N NaOH (3.2 ml. per 0.1 ml. soln. of I), dild. with H₂O to 5 ml., and polarographed at

-1.2 to -1.3 v. Detn. of 17 ketosteroids in urea must be preceded by hydrolysis with concd. HCl by heating on the steam bath.

M. Hudlický

VOLKE, Jiri.

Polarography of aromatic heterocyclic compounds. I.
Oscillographic distinction of some pyridine derivatives.
Jiri Volke and Viera Volkova (Czech. akad. věd, Prague).
Chem. Listy 48, 1031-8 (1954).—Since normal polarographic
procedure was unsuccessful for the detn. of 2 different re-
ducible C_6H_5N derivs. in the presence of each other, oscil-
lographic detns. with a dropping or streaming Hg electrode
and an electronic polaroscope were worked out for nicotinic,
picolinic, isonicotinic, dipicolinic, diisocytinic, and isocytin-
chomeric acids, and for nicotinic amide, trigonellin, nico-
tinic hydrazide, and nicotine. Up to 6 compds. present in
the soln. can be detd. in this way. M. Hudlický

VOLKE, Jiri; VOLKOVA, Vera

Polarographic determination of N-allyl-normorphine. Cesk. farm. 4
no.1:20-21 Jan 55.

1. Z Polarografickeho ustavu CSAV, Praha.

(MORPHINE, derivatives,

N-allyl-normorphine, polarographic determ.)

(POLAROGRAPHY,
of N-allyl-normorphine)

VOLKE, J.

Academician prof. Dr. Jaroslav Heyrovsky, winner of the Order of
the Republic. Czech.farm. 4 no.6:273-274 Jl '55.

(BIOGRAPHIES,
Heyrovsky, Jaroslav)

VOIKE, JIRI

3

✓
CH Polarography of aromatic heterocyclic compounds. I.
Oscillographic distinction of some pyridine derivatives.
Jiri Volke and Vera Volková. Collection Czechoslov. Chem.
Commun., 20, 908-18 (1955) (in German).—See C.A. 48,
13547b.

E. J. S.

VOLKE, J.

CZECH
✓ Polarographic reduction of quinolnic and cinchoneric acids. Preliminary communication. J. Volke (Polarografické ústav ČSAV, Prague). Chem. Listy 49, 1230-7 (1955). - Polarographic behavior of quinolnic (I) and cinchoneric acids is similar to that of nicotinic and isonicotinic acids, but it depends on the 2-step dissociation of both I and II. The value of the 1st apparent dissociation const. for I is $pK_1' = 5.9$ and for II $pK_1' = 6$ ($t_1 = 3.8$ sec.). For the 2nd apparent dissociation const. the values pK_2' (I) = 7.8 and pK_2' (II) = 8.2 ($t_2 = 3$ sec.) are found.
P. Štránská

VOLKE JIRI
CZECH

Polarography of aromatic heterocyclic compounds. II.
Polarographic behavior of isonicotinic and picotinic acid.
Jiri Volk and Vera Volkova (Polarograf. instav ČSAV,
Prague); *Chem. Listy* 49, 490-6 (1955); cf. *C.A.* 49, 135474.
—In the presence of multivalent cations there are 2 polaro-
graphic waves on the polarographic curves of isonicotinic as
well as on those of picotinic acid in buffered supporting
electrolytes. The waves are due to 2 different forms of the
reducible matter, the ratio of which changes according to the
pH value of the soln.
F. Strafelda

VOLKE, J. (Dr.)

Czechoslovakia

" Die Bestimmung von Narkotin und Hydrastin auf polarographischem Wege," by Von
J. HOLUBEK und J. VOLKE. Submitted on Eingegangen am 26. April 1956.

Ing. J. HOLUBEK - Forschungsinstitut fur Heilpflanzen, Prag. 1, Jilska 16.
Dr. J. VOLKE - Polarographisches Institut Prag 1. Vlasska 9.

SOURCE: Die Pharmazie, Sept. 1956, Unclassified.

~~Volke Jiri~~

Polarography of aromatic heterocycles. IV. Reduction
of quinoline and chloroquinoline acids at the dropping mer-
cury electrode. J.M. Volke (Polarografi, Československá Akademie
věd, Praha), Chem. Listy, 51, 414-22 (1957); of. C.A., 50,
15283f. Both acids which have their carboxyl groups in the
ortho positions may be reduced in 3 ways, according to the
pH value of the soln. The undissociated acid and the univalent
anion are formed by recombination at the dropping Hg elec-
trode. Assuming the diffusion coeff. for uni- and bivalent
anions to be different, the rate const. of the recombination
for quinoline ($k_r = 1.18 \times 10^4$, $\delta' = 5.30 \times 10^{-4}$) and chlo-
roquinoline ($k_r = 1.69 \times 10^4$, $\delta' = 8.54 \times 10^{-4}$) acids were
calcd. on the basis of polarographic measurements. The
reduction takes place with the consumption of 2 electrons
mol., and it is reversible for the undissociated mol. of the deriv.
with substituents in position 4.

F. Šutfelda

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Determination of berberine and hydrastine by means of polarography. J. Holubek and J. Votka (Research Inst. Med. Plants and Polarographic Inst., Prague), *Pharmazie* 11, 577-581 (1956). - These two alkaloids do not permit direct reduction applicable to polarographic analysis. Indirect detn. by this means was accomplished after hydrolysis with dil. hot HNO₃ of berberine into curcumin and of hydrastine into hydrastinone and oxalic acid. In this procedure, after cooling, KOH was added until alk., then a few drops of 0.5% gelatin solution. Dissolved O was removed with a stream of N before taking the polarographic curves. At lower concns. of both alkaloids, the splitting was quantit. with increased concn. still decreased proportionately. Wave height was proportional to concn., hence the flavor process can be used for a qual. method. Reproducibility of results was good, since in 5 parallel detns. the results showed a max. variation of only $\pm 1.5\%$; 5 hrs. after making the soln. alk. the polarographic wave height had not altered. (S. M. Hecking)

VOLKE, J.

CZECHOSLOVAKIA/Medicinal Substances, Vitamins, Antibiotics. H.

Abs Jour : Ref Zhur - Khimiya, No 19, 1958, 65352

Author : Volke, J., Novotny, B.

Inst :

Title : Polargraphic Methods of Inspection of Medicinal Preparations.

Orig Pub : Ceskosl. farmac., 1956, 5, No 4, 231-238

Abstract : Review.
Bibliography 103 titles.

Card 1/1

Z

VOLKE, J.

The polarography of N-containing heterocyclic compounds. In German. p. 223.
(Acta Chimica, Vol. 9, No. 1/4, 1956, Budapest, Hungary)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 8, Aug 1957. Uncl.

VOLKE, J.

VOLKE, J. Polarographic reduction of quinolinic acid and cinchomeronic acid; a preliminary communication. In German. p. 246.
Vol. 21, No. 1, Feb. 1956. SEZNIK CHEKHOVSKIKH
KHIMICHESKIKH RABOT. COLLECTION OF CZECHOSLOVAK CHEMICAL
COMMUNICATIONS. Praha, CZECHOSLOVAKIA.

SOURCE: EAST EUROPEAN ACCESSIONSLIST (EAL) VOL 6, NO. 4 April 1957

Volke, S.

✓ 1587. Polarography of aromatic heterocycles.
III. Polarographic reduction of isoflavones. J. Volke
and V. Šabó (Polarographic Inst., Acad. Sci.,
Prague, Czechoslovakia). *Chem. Listy*, 1950, 44 (7),
1095-1102. Isoflavones (but not flavones) in
buffered aq. ethanolic soln. occur in two forms,
the properties of which change with pH. The
polarographic differentiation of flavones from iso-
flavones and of some flavones in the presence of
each other is thus possible. The values of half-wave
potentials of 7-methoxy-, 7-hydroxy-, 7,4'-di-
hydroxy-, 7-hydroxy-4'-methoxy-, 5,7-dihydroxy-
4'-methoxy- and 5,7,4'-trihydroxy-isoflavones are
given. J. ŽÍKA

2.

VOLKE, J.

Growth of the number of polarographic publications during the years 1946-1955.

P. 613 (Chemie) Vol. 9, No. 4, Aug. 1957, Czechoslovakia

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC. - VOL. 7, NO. 1, JAN. 1958

VOJKE, J.

"1st annual conference of the Research Institute on Medicinal Plants in Prague.
p. 779 (Chemie, Vol. 9, no. 5, Nov. 1957)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 6, June 1958

Ucker F

223. Polarographic determination of individual constituents in cotarnine-narcotine and hydramine-hydrazinotaurine. J. Holubek and V. Vorek. *Forschungsanst. für Heilpflanzen, Prague, Praktika*, 1957, 12 (8), 201. Cotarnine or hydramine can be determined by direct polarography in alkaline soln. Polarographic determination in alkaline soln. after oxidative hydrolysis with hot dil. HNO_3 gives the total content of cotarnine and narcotine, or of hydramine and hydrazine (*J. U.S.A., 1958, 11, 617*). The relative error is $< \pm 4\%$.
A. R. Root

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1-4E3
1-4E3

11
52

Volke, J.

"Polarography of aromatic heterocyclic compounds. III. Reduction of quinolinic acid
and cinchomeronic acid on the mercury dropping electrode." In German.
p. 1777. (Sbornik Chekoslovatskikh Khimicheskikh Rabot, Vol. 22, no. 6, Dec.
1957, Praha, Czechoslovakia)

Monthly index of East European Accession (EEAI) LC, Vol. 7, No. 8, August 1958

Volke Jiri

CZECHOSLOVAKIA/Physical Chemistry - Electrochemistry.

B-12

A&s Jour: Referat. Zhurnal Khimiya, No 3, 1958, 7324.

Author : Jiri Volke.

Inst :

Title : Polarography of Aromatic Heterocyclic Compounds. IV. Reduction of Quinoline and Cinchomeronic Acids on Mercury Drop Electrode.

Orig Pub: Chem. listy, 1957, 51, No 3, 414-423; Sb. chekhol. khim. rabot, 1957, 22, No 6, 1777-1788.

Abstract: Quinoline (I) and cinchomeronic (II) acids are reduced on a Hg electrode in three forms depending on pH. Corresponding two-electron waves are attributed to the reduction of free acid and monovalent and bivalent anions. The wave heights of acid and monovalent anion decrease with the increase of pH, and the current dependence on pH has the shape of the dissociation curve. The author explains this shape by the combining of the acid anion

Card : 1/2

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J.

Distr: 4E2c(j)

The polarographic reduction of pyridine derivatives having an aldehyde group. J. Volke (Polarographic Inst., Prague). Z. physik. Chem. (Leipzig) Sonderheft July, 1958, 268-77; cf. C.A. 52, 13482a. The half-wave potentials (vs. the normal calomel electrode) at pH 4 for the pyridinecarboxaldehydes studied were: 4-pyridinecarboxaldehyde -0.35 and 0.49, 2-pyridinecarboxaldehyde -0.56, 3-pyridinecarboxaldehyde -0.70, and pyridoxal -0.55 v. The polarographic investigations showed the possibility of an analytical detn. of the aldehydes and of pyridoxal, preferably in the concn. range 0.5×10^{-4} - 3×10^{-4} M, working in soins, buffered at pH 6-7 for the isomeric aldehydes and

at pH 10-11 for the pyridoxal. The pyridine-3-aldehyde could be detd. simultaneously with either the -2-aldehyde or the -3-aldehyde. Polarographic analysis of pyridine-hydroxy-methanesulfonic acid was possible after its alk. hydrolysis.

H. K. Zimmerman

*4
2-May**J.W.*

Volke, J.

CZECHOSLOVAKIA/Physical Chemistry - Electrochemistry B-12

Abs Jour: Referat Zhur - Khim, No. 9, 1959, 30676

Author : Volke, J.

Inst : Not given

Title : The Polarographic Study of Aromatic Heterocyclic Compounds. V. Investigation of the Reduction of Aldehydes of Pyridine Carboxylic Acids.

Orig Pub: Collection Czechoslov Chem Commun, 1958, No 8,
1486-1495

Abstract: See RZhKhim, 1958, 73⁴23

Card 1/1

47

CZECHOSLOVAKIA/Physical Chemistry. Electrochemistry.

B

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 73423.

a division of the wave into 2 waves of equal height is observed in the cases of 4- and 2-pyridine aldehydes. The rise and the drop of the limiting current with the change of pH are explained by the acid-alkaline catalysis of dehydration. The ultraviolet absorption spectrum indicates the existence of two forms in neutral and alkaline solutions. In the range of pH from 0 to 2.8, the limiting current is of the kinetic character and is limited by the dehydration rate. The presence of pyridine aldehyde influences the waves of depolarizers, which are reduced at more negative E-s (for example, isonicotinic acid). It is assumed that a reaction takes place between the products of aldehyde reduction and the other depolarizer. The reduction of pyridine aldehydes proceeds in the alde-

Card : 2/3

CZECHOSLOVAKIA/Physical Chemistry. Electrochemistry.

B

Abs Jour: Ref Zhur-Khimya, No 22, 1958, 73423.

aldehyde group and not in the ring. 4-pyridine aldehyde is reduced at more positive E-s than 2-pyridine aldehyde, which is explained by the polar effects of nitrogen atoms on the neighboring position in the pyridine ring. Buffer solutions with pH = 6 to 7, in which 3-pyridine aldehyde can be determined in the presence of the 2- and 4-isomers, are the most suitable for analytic purposes. But a joint determination of all the three isomers proved to be impossible. See part IV in RZhKhim, 1958; 7324.

Card : 3/3

~~J.~~ VOLKE, J.

4
2 May

✓ Polarographic study of the fission of narcotoline. Jiri Holubek and Jiří Volke (Výzkumný ústav ředitelství, Praha). Chem. Listy 52, 589-94 (1958).—Polarographic behavior of cotarnoline supported the not yet fully accepted opinion of cotarnoline being a substituted *o*-hydroxybenzaldehyde. Cotarnoline was obtained by hydrolysis of narcotoline in a weakly alk. soln. An analytical polarographic method for the detn. of narcotoline is presented. For the detn. of narcotoline, take 4 ml. of the sample in 0.1*M* HCl, heat 10 min. on a boiling-water bath with 1 ml. of 1*M* NH₄OH, cool, add 1 ml. of 1*M* HCl and 2 drops of 0.5% gelatin soln., bubble N through the soln., and polarize up from -1.0 v. *YML* */// Other opium alkaloids do not interfere.* P. Stäfelsdorff

S. J.

VOLKE, J.; HOLUBEK, J.

"Polarographic study of the splitting of narcotoline." In German. p. 1436.

COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS, Praha, Czech.
Vol. 24, No. 4, May 1959

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 6, Sept. 59
Unclassified

VOLKE, J.; HOLUBEK, J.

Polarography of heterocyclic aromatic compounds. Pt. 15.
Coll Cz Chem 28 no.6:1597-1599 Je '63.

1. Polarographic Institute, Czechoslovak Academy of
Sciences and Research Institute for Natural Drugs, Prague.

VOLKE, J.

"Handbook of chemistry and physics" edited by Ch.D.Hodgman.
Reviewed by J.Volke. Chem listy 57 no.9:987-988 S '63.

VOLKE, J.

"O. Hrdy's Kvantitativni analýza líciv. (Quantitative Analysis of Drugs);
a book review." p. 445.

CHEMICKE LISTY. Praha, Czechoslovakia, Vol. 53, no. 4, Apr. 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 8, August, 1959.
Uncl.

VOLKE, Jiri

"Study of Organic Depolarizers by Means of Oscillographic Polarography with Controlled Current," Bratislava, Chemicke Zvesti, No. 11-12, Nov-Dec 60, p. 807.

Affiliation: Polarographic Inst., CSAV, Prague.

VOLKE, J.; KUBICEK, R.; SANTAVY, F.

Polarography of aromatic heterocyclic compounds. VI. Reduction of
aldoximes of pyridinecarboxylic acid. Coll Cz chem 25 no.3:871-
877 Mr '60.
(EEAI 9:12)

1. Polarographisches Institut, Tschechoslovakische Akademie der
Wissenschaften, Prag und Institut fur medizinische Chemie,
Palacky-Universitat, Olomouc.
(Aromatic compounds)
(Pyridinecarboxylic acid)
(Oximes)
(Heterocyclic compounds)

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1. Polarographisches Institut, Tschechoslowakische Akademie
der Wissenschaften, Prag, und Chemisches Institut, Medizinische
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VOLKE, J.

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Polarography of aromatic heterocyclic compounds. VIII. Polarographic study of formyl pyridine and pyridoxal in acid solutions. Coll Cz Chem 25 no.6:1580-1585 Je '60. (EEAI 10:9)

1. Polarographisches Institut, Tschechoslowakische Akademie der Wissenschaften, Prag.

(Polarograph and polarography) (Aromatic compounds)
(Formyl pyridine) (Pyridoxal)

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1. Research Institute for Natural Drugs, Prague and Polarographic Institute, Czechoslovak Academy of Science, Prague.

(Polarograph and polarography) (Aromatic compounds)
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1. Forschungsinstitut fur Naturarzneimittel, Prag, und Polarographisches
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(Pyridoins) (Pyridyl group) (Heterocyclic compounds)

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1. Polarographic Institute, Czechoslovak Academy of Sciences, Prague.

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1. Polarographic Institute, Czechoslovak Academy of Sciences, Prague
and Research Institute for Natural Drugs, Prague.

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1. J. Heyrovsky Institute of Polarography of the Czechoslovak
Academy of Sciences, Prague. 2. Present address: Institute
"Galenika", Zemun, Yugoslavia (for Dumanovic). Submitted
October 24, 1963.

VOLK, J.; AMER, M.M.

Polarography of aromatic heterocyclic compounds. Pt. 16. - *Czechoslovak Chem. Comm.* 29 no. 9:2135-2150, 1964.

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VOL'KENAU A.

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Goryuchiye Slantsy, No 4, 1932

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1933, no. 5, 12.

SO: Goryuchiye Slantey #1934-35 TN. 871 G74

Vol'kenau, A. V. and Adamovich, V. A.

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VOL'KENAU, A. V., Engr.

Cand. Tech. Sci.

Dissertation: "Influence of Various Factors on the Labor Efficiency in Iron all of the
Moscow Basin and Measures for Efficiency Increase." Inst. of Mining, Acad. Sci. USSR,
23 Feb 47.

SO: Yechernyaya Moskva, Feb, 1947 (Project #17836)

VOL'KENAU, A. V.

PA 40/49T87

USSR/Mining Equipment

Combines, Coal

Jan 49

"Design Principles of a Coal Combine for
Average Thickness Strata," A. V. Vol'kenau,
I. L. Faybisovich, All-Union Sci Res
Coal Inst, 3 pp

"Tekol" No 1

Describes construction of an ideal coal
combine which must have the following
features: (1) must be capable of cutting
the coal seam by means of vertical cutters
which will operate perpendicular to the
plane of the seam for the whole width

USR/Mining Equipment (Contd)

Jan 49

of the seam and at the same time undercut
the seam, and (2) operation of the combine
should be accomplished by remote control.

40/49T87

40/49T87

VOL'KENAU, A.V.

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VOL'KENAU, A. V.

27720. VOL'KENAU, A. V., BUCHNEV, V. K., NUROK, G. A. razrabotka moshchnykh
plastov kuzbasa naklonnogo i krutogo padeniya sistemoj VUGI. olosami po
vosstaniyu s polkom i gidrav-licheskoy zakladkoy, ugel', 1949, No. 9, S. 7-12.

SO: Letopis'Zhurnal'nykh Statey. vol. 37. 1949.

VOL'KENAU, A.V., kandidat tekhnicheskikh nauk; RODIONOV, V.I. , gornyy inzhener.

Remarks on Engineer I.D.Averbukh's and Doctor of Technology S.A.Volotkovskii's pamphlet "Norms of specific electric power consumption in the backfilling of mined space in the Kuznetsk Basin mines." A.V.Vol'kenau, V.I. Rodionov. Ugol' 28 no.6:45-46 Je '53. (MLRA 6:6) (Electricity in mining) (Averbukh, I.D.) (Volotkovskiy, S.A.)

VOL'KHOV, A.V., kandidat tekhnicheskikh nauk; SHIROKOV, A.P., gornyy
inzhener

Testing anchorage supports in the Kuznetsk Basin. Ugol' 30
no.9:18-25 S'55. (MLRA 8:12)

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(Kuznetsk Basin--Mine timbering)

"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001860510015-4

VOL'KENAU A.V., kandidat tekhnicheskikh nauk; ZVYAGIN, P.Z., kandidat
tekhnicheskikh nauk.

Economic evaluation of coal losses. Ugol' 32 no.6:8-13 Je '57.
(MIRA 10:7)

(Coal mines and mining)

APPROVED FOR RELEASE: 08/09/2001

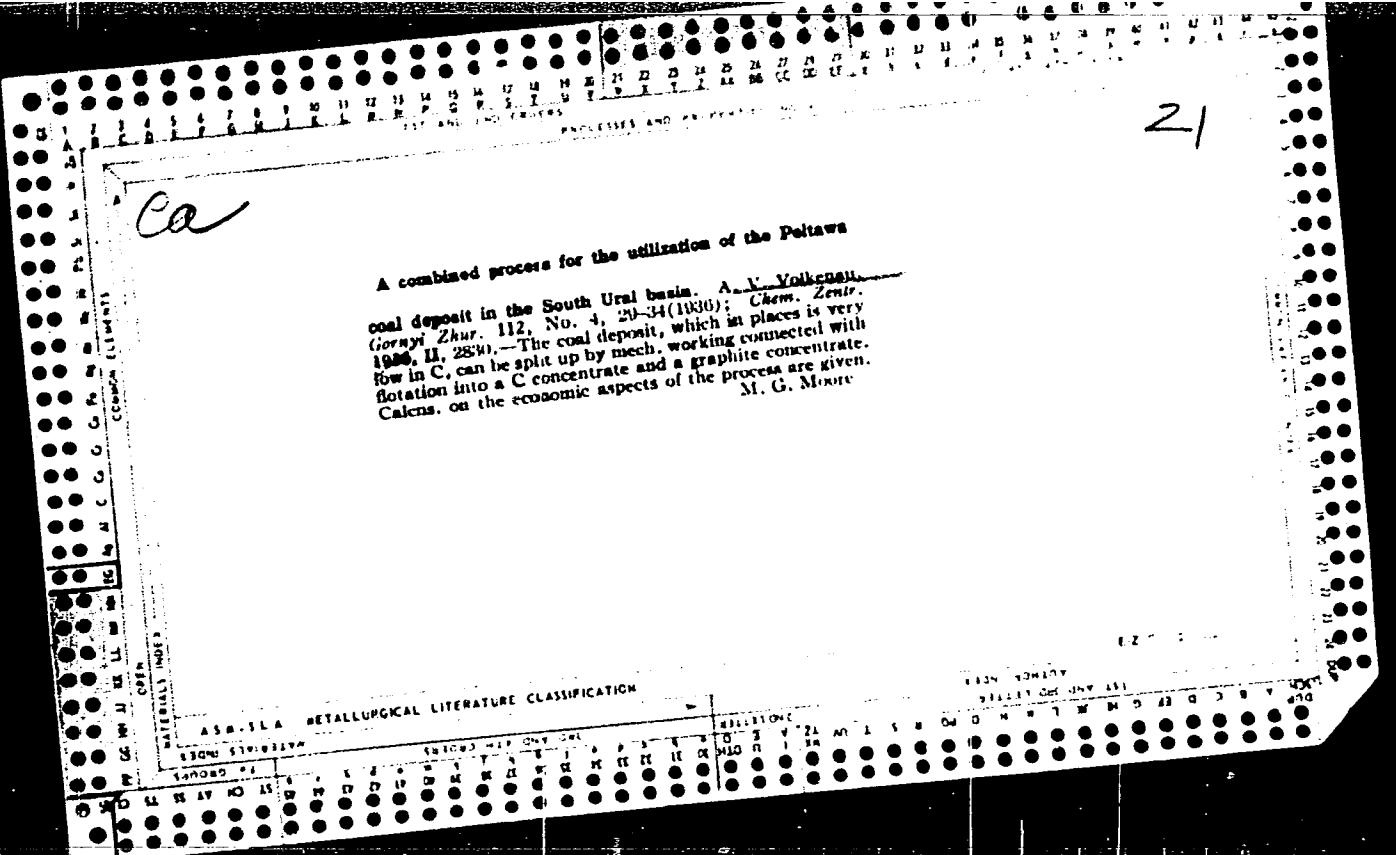
CIA-RDP86-00513R001860510015-4"

VOLKENAU, A. V., DOBROVOL'SKIY, V.V., MALYSHEV, A.G., MIN. ENG.

Kuznetsk Basin - Coal Mines and Mining

Mining thick, steeply inclined seams in the Kuznetsk Basin by the method of sloping layers with hydraulic filling up. Ugol' 27 No. 7, 1952

9. Monthly List of Russian Accessions, Library of Congress, October 1952 ~~1953~~. Unclassified.



"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001860510015-4

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V. K. DUGADEV, UgoL, 1949, (9), 7-12 L

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CIA-RDP86-00513R001860510015-4"

"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001860510015-4

VOLKENAU, N. A.
A. N. VOLKENAU, IAN/OKBII 1951, 692-8

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001860510015-4"

2071. ESSENTIAL OUTLINES OF COMBINED COAL MACHINES FOR MEDIUM THICK SEAMS. A
Volkenay, A.V. and Fartisovitch, I.I. (Ugol, Jan. 1949, (1), 4-7).
The Makarov combined machine, used when working seams 2-2.2 m. thick,
possesses 2 bent bars, 2 straight bars, 2 horizontal rods and 3 small
vertical discs. In spite of this complicated cutting system which
results in the crushing of 60-65% of the coal, a preliminary shaking
of the face by explosives is necessary. The author recommends a
special construction which would enable the seam to be cut through its
whole thickness by the vertical cutters into strips not larger than
40 c.m. For a cutting depth of 1 m. at least two vertical bars are
necessary, and three, when the cutting depth is 1.5 m. In order to
avoid a wedging-in of the coal strips between the bars, one should
advance a little behind the other. Also, the seams should be undercut
by a horizontal bar at the floor, and, if necessary, by another at the
roof. The quantity of coal crushed would not exceed 30-40%, the rest
breaking into pieces not larger than 40 x 40 c.m. In order to facilitate
dislodging of the vertical coal strips, the truck of the vertical
bars should be shaped conically with its edge pointing towards the
working branch of the cutting bars. A scraper would remove the coal
by means of a plough-share to the conveyor. The motor for the machine

would be mounted above the conveyor, high enough for loading to be carried out from underneath. A haulage winch, in the bottom road, with remote regulator would shift the machine along the face. The essential work is done during the advance of the machine to the rise; on its backward travel, the scraper alone works. Forward and backward speeds are respectively 0.5 and 1 m./min. In each of two out of three shifts in 24 hours, a 100 m. face could be stripped once, the machine brought back to its initial position and all the installations moved nearer to the face. The third shift would be used for support and repair work. An output of 11.7 tons per man-shift at the face is expected. Although designed primarily for level or slightly inclined seams, the same construction could probably serve for work in steep seams.

M.C.R.

NE SMEYANOV, A. N.; BORISOV, A. E.; VOL'KENAU, I. A.

"Synthesis of Stereoisomeric Organo-mercury Compounds from Organolithium Compounds," Izvest Akad Nauk SSSR, Otdel Khim Nauk 992-1001 (1954).

N. D. Zelinskii Institute of Organic Chemistry of the Academy of Sciences and M. V. Lomonosov State University, Moscow.

Report B-85365, 3 Jun 55

VOL'KENAU, N. A.

"Investigation of a Series of Derivatives of Triphenylethane."
Sub 29 Jun 51, Moscow Order of Lenin State U imeni M. V. Lomonosov.

Dissertations presented for science and engineering degrees in
Moscow during 1951.

SO: Sum. No. 480, 9 May 55

VOL'KENAU, N.A.

USSR Chemistry - Organic chemistry

Card 1/2 Pub. 40 - 7/27

Authors : Nesmeyanov, A. N.; Borisov, A. E.; and Vol'kenau, N. A.

Title : Synthesis of stereoisomeric mercuriorganic compounds from lithium-organic compounds

Periodical : Izv. AN SSSR. Otd. khim. nauk 6, 992-1001, Nov-Dec 1954

Abstract : The synthesis of stereoisomeric alpha-mercuristilbenes through the reaction of geometric isomers of alpha-lithiumstilbene with $HgCl_2$ is described. The disymmetrization reaction of stereoisomeric alpha-chloro-mercuristilbenes.

Institution : Acad. of Sc., USSR, The N. D. Zelinskiy Institute of Organic Chemistry

Submitted : February 13, 1954

Periodical : Izv. AN SSSR. Otd. khim. nauk 6, 992-1001, Nov-Dec 1954

Card 2/2 Pub. 40 - 7/27

Abstract : The symmetrization reaction of stereoisomeric alpha-chloromercuristilbenes which produces the basic alpha-mercuristilbenes was investigated. The conditions favorable for the isomerization of cis-alpha-lithiumstilbene and cis-alpha-mercuristilbene into homologous trans-isomers are discussed. Twenty-two references: 8 USSR, 8 USA, 1 French and 5 German (1895-1952). Tables; graph.

L 35385-66 EWT(m)/EWP(j) RM
ACC NR: AP6026817

SOURCE CODE: UR/0020/66/166/003/0607/0610

AUTHOR: Nesmeyanov, A. N. (Academician); Vol'kenau, N. A.; Bolesova, I. N.

3/

B

ORG: Institute of Organoelemental Compounds, AN SSSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

TITLE: Interaction of ferrocene with substituted aromatic compounds

SOURCE: AN SSSR. Doklady, v. 166, no. 3, 1966, 607-610

TOPIC TAGS: ferrocene, chemical reaction, molecular structure

ABSTRACT: This paper is a continuation of previous studies on exchange of the ligand group in ferrocene and its derivatives in the aromatic ring and the effect of substituents in the ferrocene nucleus on this reaction. Interaction of ferrocene with toluene, p-xylene, diphenyl, naphthalene, fluorene, aniline, acetanilide, chlorobenzene, bromobenzene, benzonitrile, acetophenone and thiophene was studied. Eight aromatic cyclopentadienyl iron salts were produced with substituents in the six-membered ring. Orig. art. has: 1 table. [JPRS: 36,455]

SUB CODE: 07 / SUBM DATE: 22Jul65 / ORIG REF: 002 / OTH REF: 003

Card 1/1

PB

UDC: 547

0916

2365

Volkovsk, N.A.

✓ Exchange reactions of stereoisomeric stilbenes. I.
of stilbene. A. N. Nesmeyanov, A. E. Borisov, and G. V. Volkenau. Inst. Tetrahedron Compounds Acad. Sci. U.S.S.R.

MOSCOW, 1956, 162-71; Bull. Acad. Sci. U.S.S.R. Div. Chem. Sci., 1956, 157-04 (Engl. translation); cf. C.A. 49, 68924L. —
trans-(PhCH:CPH)Hg(I), and TICl₄ in diaxane in 1 hr. at 70-80° gave 97% TICl and 91% *trans*-PhCH:CPH₂HgCl(II), m. 140-1°, as well as 87% *trans*- α -chlorostilbene, m. 52-5.5°. *cis*-I similarly gave 98% TICl and 91% *cis*-PhCH:CPH₂HgCl, m. 130-1°. The same reactions in Et₂O are very slow and incomplete. Refluxing *trans*-PhCH:CPH₂HgCl with 15% Na-Sn alloy in xylene 3 hrs. gave 77% *trans*-I and a little *trans*-stilbene; in C₆H₆ the reaction requires 8 hrs. *cis*-PhCH:CPH₂HgCl similarly gave with Na-Sn alloy 97% *cis*-I in hot C₆H₆ in 3 hrs. I with SnCl₄ in sealed tube at 100° or 180° gave Hg, stilbene, II, and unreacted I; the reactions were run in EtOH, EtOH-HCl, Me₂CO, and dioxane. In EtOH II and SnCl₄ gave a good yield of I, while in EtOH-HCl or Me₂CO, stilbene was the main product. *cis*-I with SnCl₄ gave a high yield of Hg, some stilbene, PhCH:CPH₂SnCl₄ (if run in Me₂CO), some PhCH:CPH₂SnO₂H (after hydrolysis), and some (PhCH:CPH₂)₂SnO. In reaction run in Me₂CO, PhCH:CPH₂SnCl₄, m. 108-10°, PhCH:CPH₂SnO₂H, m. 157-60°; (PhCH:CPH₂)₂SnO, does not m. 300°. The acid with SOCl₂ gave RSnCl₃, which also formed from R₂SnO and SOCl₂ (R = PhCH:Cl). PhCH:CPH₂SnCl₄ and HgCl₂ in EtOH gave 87% *cis*-II, m. 120-30°. / SnCl₄ and HgCl₂ with aq. alc. HgO (prepd. *in situ* from HgCl₂ and NaOH) gave 80-67% *cis*-I, I and HgBr₂ in hot EtOH gave 98% PhCH:CPH₂Br(III), m. 157-8°. *cis*-I

Messrs. Parsons & Associates
similarly gave a 49% yield of isomeric $\text{PhCH}_2\text{CH}_2\text{Br}$ (IV), m. 118-19°. The former isomer with aq. $\text{Me}_2\text{CO}-\text{KI}$ soln. gave 99% I, while the latter isomer gave 53% *cis*-I, *cis*-II and -III. Na_2SnO_2 gave 95% *cis*-I, while IV gave 94% *cis*-I; II and its Br analog gave *trans*-I. Symmetrization with NH_3 in CHCl_3 soln. gave a similar result. Dianion- Br_2 complex with *trans* and *cis* isomers of RHgCl_2 , RHgBr_2 , *cis*-I, RSnCl_3 , RSnO_2H , or RSnO gave the corresponding RBr_2 . I gave some RBr , as well as some II. Bromination of I in C_6H_6 gave 91% *trans*- RBr_2 and 93% II. G. M. K.

DM 2/27/87

"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001860510015-4

VOL'KENAU, N. A.

Electr.
Synthesis of alkylferrocenes. A. N. Nesmeyanov and
N. A. Vol'kenau. (Proc. Acad. Sci. U.S.S.R., Sect. Chem.
1955, 101, 1551; Eng. translation). See C.A. 50, 155198.
B. M. R.

RHM 226

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001860510015-4"

Vol'kenau, N. A.

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 968

Author: Vol'kenau, N. A., and Nesmeyanov, A. N.

Institution: Academy of Sciences USSR

Title: Synthesis of Alkylferrocenes

Original
Periodical: Dokl. AN SSSR, 1956, Vol 107, No 2, 262-264

Abstract: The reduction of acylferrocenes to alkylferrocenes has been carried out with a 10-fold excess of Zn amalgam and concentrated HCl in glacial CH₃COOH (the yield in percent, bp in °C/mm, n_D²⁰, and d₄²⁰ are given): acetylferrocene to ethylferrocene, 67, 108-109/5.5, n_D^{20.5} 1.6017, d₄^{20.5} 1.2469; diacetylferrocene (I) to diethylferrocene (II), 40-50, 123-124/5.5, 1.5803, 1.1787; dipropionylferrocene (III) to dipropylferrocene, 70, 137-138/5, 1.5619, 1.1244; dibutyrylferrocene (IV) to dibutylferrocene, 60, 164-165/6, 1.5511, 1.1086; dibenzoylferrocene (V) to dibenzylferrocene, 60, mp 101.5-102.5° (from petroleum ether). III, IV, and V were prepared by reacting

Card 1/2

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 968

Abstract: the corresponding acid chloride with ferrocene in the presence of AlCl_3 in CS_2 (the yield in percent and mp in $^{\circ}\text{C}$): III, 40, 53-54 (from petroleum ether); IV, 40, 74-75 (from petroleum ether); V, 70, 101-102 (from 50% alcohol). It is shown that the synthesized alkylferrocenes are oxidized by quinone to alkylferricinium cations, which can be reduced again with SnCl_2 . The hypothesis is advanced that in all the synthesized dialkylferrocenes the alkyl groups are attached to different C_5H_5 -rings. This is the case in II, since the position of the CH_3CO -groups in I is known.

Card 2/2

TO RENAUD N.Y.

RE: The reduction of $\text{Fe}(\text{Cp})_2\text{Cl}_2$ by LiAlD_4 in the presence of $\text{Al}(\text{C}_2\text{H}_5)_3$ in CH_2Cl_2 at -78°C . The product was a yellow solid which was soluble in CH_2Cl_2 and CH_3OH but insoluble in CH_3Cl and $\text{CH}_3\text{CO}_2\text{Et}$. It was soluble in CH_3OH with $10\text{ mol}\% \text{ LiAlD}_4$ and gave a 3-carbon derivative in which a vinyl group was present. This product was reduced with LiAlD_4 in CH_3OH to a diacylferrocene. Treatment of this product with HgSO_4 or polyphosphoric acid yielded a red product of cyclization, $\text{C}_{16}\text{H}_{16}\text{O}_2$, m.p. 131° (from CH_3Cl), m.p. 116° (from CH_3Cl). This was heated 4 hr. in polyphosphoric acid and gave a red product of cyclization, $\text{C}_{16}\text{H}_{16}\text{O}_2$, m.p. 131° (from CH_3Cl), m.p. 100° (from CH_3Cl). The diketone probably contains 2-cyclohexanonyl rings fused to each of the cyclo-

AN. No. 513 R. V. L. N. A. Vol. X, p. 24 and 7... 11-22-87
Fischer and Sons, C. I. No. 74764. Ferrocene (0.026 mmole)
with 0.003 mole 4-carboxypropanoyl chloride in the
presence of AlCl₃ in CS₂ gave 27% bis(3-carboxypropyl)-
ferrocene, orange, m. 63°, which did not cyclize with poly-
phosphoric acid; with aq. KOH this gave the dicarboxy
analog, decom., 163°, identical with I. Clemmensen re-
duction of the d-Me ester gave II when run in acid medium;
run in MeOH, the reaction gave orange bis(3-carboxy-
propyl)ferrocene, b.p.m. 145°, m. 16.5-17.5°.

G. M. Kosolapoff

5

2/2
MT

VOL'KENAU, N. A.

Chem

Acylation of acetyl- and ethylferrocene. A. N. Ne-
meyarov and N. A. Vol'kenau (Inst. Heterocycl. Compds.,
Moscow). Doklady Akad. Nauk S.S.R. 111, 605-8
(1956); cf. C.A. 50, 15519h; Woodward, et al., C.A. 48,
2053g. Reaction of 3 g. acetylferrocene (I), 1 g. AcCl, and
3.39 g. AlCl₃ in CS₂ 0.6 hr. at room temp. and 0.6 hr. at
reflux gave 80% 1,1'-diacetylferrocene, m.p. 130-1°. Identical
with that from ferrocene and AcCl. Similarly, I and BrCl
gave 48% 1-acetyl-1'-benzoylferrocene, m.p. 71-2°. Ethyl-
ferrocene (4 g.) and 2.81 g. AcCl with 4.82 g. AlCl₃ in CS₂
similarly gave 63% red oily diacetylethylferrocene, which, after
purification by adsorption on Al₂O₃, gave a disemicarbazone,
decomp. 208-10°, with 10% α -ethyl-1-acetylferrocene, red
liquid, whose semicarbazone, m.p. 189-91°. Refluxing 60 ml.
AcOH, 6.12 g. SiCl₄, and 120 ml. C₆H₆ 3 hrs., followed by
addn. of 8 g. ethylferrocene in 8 ml. C₆H₆ and slow addn.
of 18.8 g. ScCl₄ in C₆H₆ and refluxing 4 hrs. gave 5 g. mixed
oily ketones which after purification on Al₂O₃ still gave
mixed isomeric acetylethylferrocenes (II) as well as 8% diacetyl-
ethylferrocene (disemicarbazone, m.p. 208-9°). II gave semi-
carbazones, m.p. 141-2° and 190-2° in 1:3 ratio. The former
semicarbazones reduced with Zn-AcOH gave 61% 1, α -diethyl-
ferrocene, n_D²⁰ 1.5701, d₄ 1.1655, while the 2nd semicarba-
zone gave 1,1'-diethylferrocene. Similar reduction of di-
acetylethylferrocene gave 56% trichloroferrocene, n_D²⁰ 1.5513,
d₄ 1.1201. Treatment of 1 g. ethylferrocene in CCl₄ with
0.4 g. Br gave a vigorous reaction yielding, after refluxing 1
hr., 74% pentabromo cyclopentene, m.p. 102-3°, also formed
on bromination of 1, α -diethylferrocene. Thus, ferrocene
shows lesser activity of the ring in which an Ac group is
located, while the 1 α -substituted ring is more reactive than
that in unsubstituted ferrocene. G. M. Kosolapoff